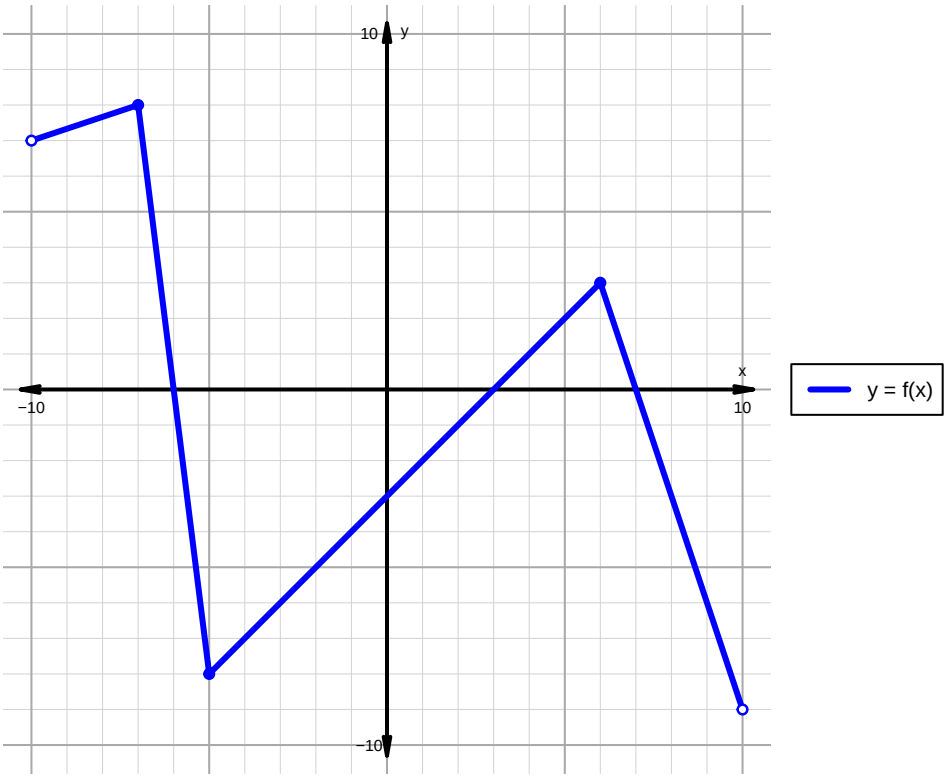
Name: Date:

Intervals, Transformations, and Slope Solution (version 88)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-6)\cup(3,7)$
Negative	$(-6,3)\cup(7,10)$
Increasing	$(-10,-7)\cup(-5,6)$
Decreasing	$(-7,-5)\cup(6,10)$
Domain	$(-10,10)$
Range	$(-9,8)$

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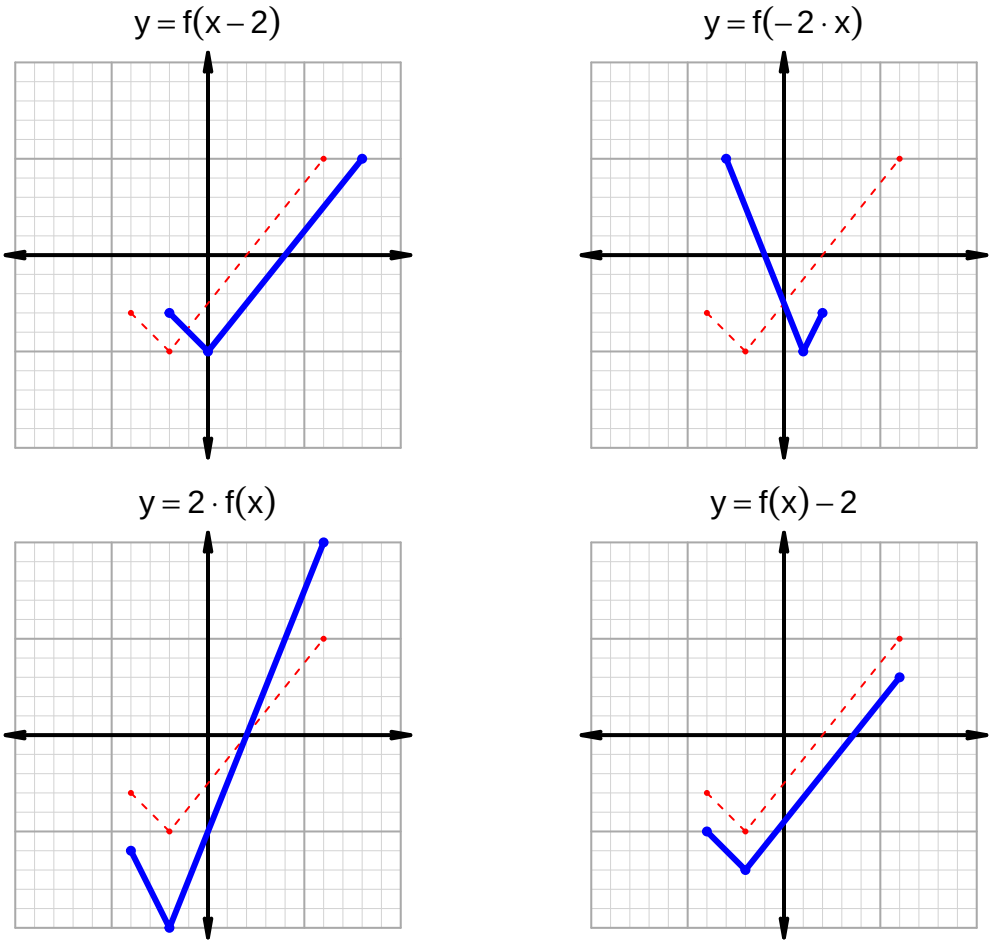
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 17$ and $x_2 = 27$. Express your answer as a reduced fraction.

x	$g(x)$
17	71
27	83
71	27
83	17

$\frac{g(27)-g(17)}{27-17} = \frac{83-71}{27-17} = \frac{12}{10}$

The greatest common factor of 12 and 10 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{6}{5}$$